A Prescription-Writing Tool for a Primary Care Pediatric Office

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We have designed, written and implemented a computer-based prescription-writing program for one of our pediatric offices. The program uses the standard Microsoft Windows(tm) graphical user interface, thus simplifying both training and ease-of-use. It has several features which are tailored to a primary care pediatric office environment, but could easily be used in other settings. We intend to use the program both as a productivity tool and as a platform to study such items as acceptance of computers in the outpatient setting, and effects of automation on medication errors.

IMPLEMENTATION

The prescription-writing program was written using Microsoft Access(tm). Microsoft Access(tm) was selected because of its rich programming environment and the availability of a runtime version for distribution of the program. Programming proceeded through several stages. The first stage was initial conception and programming of the project. The first version was then used by the author in a clinical setting. Experience gained from this was then used to refine the program. Finally, the program was placed into general use in one of our primary care pediatric offices. Ongoing feedback from this setting continues to drive modifications to the program. The program requires a computing environment in which Microsoft Access(tm) will run satisfactorily.

DESCRIPTION

One of the major goals of the project was to simplify the process of writing prescriptions. In order to do this, steps which are repetitive when physically writing prescriptions were automated to as great an extent as possible. The program was also designed to be easy to use, as many health care providers do not have a great deal of computer experience.

The program initially presents the user with a password screen which prevents the program from being used by unauthorized persons. The user is then shown a screen which prompts for the selection of the provider name and patient name to be printed on the prescription. Providers are selected from a pull-down list, thus reducing the typing burden.

After these items are entered, a second screen allows the user to select which medication to prescribe. An extensive list of medications has been created, along with dosing and usage information which is displayed when the medication is chosen. This list can easily be extended or modified by the user. After selecting a medication, the user then goes on to fill in the appropriate blanks for the dosing regimen and quantity to be dispensed. The prescription is then printed by clicking on a "print" button. Other items that are available on this screen are a button to print a blank prescription (for school notes, etc.) and a button to display a calculator for assistance with dosing calculations. Any number of prescriptions can be printed for the same patient without having to re-enter to patient name.

It is important to note that the program has been optimized for the primary care pediatric setting. In that setting, the same medication is frequently used for many different patients, whereas renewing many different medications for a single patient is much rarer (this is distinctly different from the adult setting). The program reflects this in that it contains an extensive database of medications, but does not maintain a database of patients.

CONCLUSIONS

We have implemented a prescription-writing program which is now in use in one of our primary care pediatric offices. We expect it to improve office efficiency, and we intend to use the program to investigate issues surrounding the use of such tools.